Low-frequency vector sensor

wilcoxon SENSING TECHNOLOGIES

VS-301

SPECIFICATIONS

Output sensitivity, nominal¹: Accelerometer Hydrophone	10 V/g −162 dB re 1.0 V/μPa	
Full scale input range: Accelerometer Hydrophone	0.5 g peak 200 Pa peak	
Frequency response, ±3 dB: Accelerometer Hydrophone	3.0 Hz - 2.0 kHz 8.0 Hz - 2.0 kHz	
Transverse sensitivity, max	<5%	
Power requirement: Voltage Current, nominal	6.5 - 12.0 VDC 40 mA	
Output type, differential	2.1 - 2.6 V bias	
Output impedance, max	100 Ω	
Pressure range: Operational, max Absolute max	800 psi 1,200 psi	
Operating temperature	–10° to +60°C	
Diameter	0.80 in.	
Length	3.37 in.	
Buoyancy in water	– 68%	
Weight, without cables	43 grams	
Cable ²	6 cables, 15 ft. each	
External material	polyurethane	

Options: Connector; cable length



Notes: ¹ Actual values of X, Y, Z, and H are recorded on calibration sheet.

- ² Cable: twisted, shielded pair, polyurethane jacket.
- ³ Cable shield is not connected in the sensor.
- $^{\rm 4}$ B (EIA-485): also known as TX+ / RX+ or D+ as alternative for B (high for MARK i.e. idle)
- ⁵ A (EIA-485): also known as TX- / RX- or D- as alternative for A (low for MARK i.e. idle)
- ⁶ A and B are compliant with other VS legacy sensors with digital RS-485.
- ⁷ I.C manufactures of RS-485 parts use an incorrect (but consistent) A/B naming designation.
- 8 Sensor case connects to ground in the sensor.



Key features

- Three orthogonal axis accelerometers and one omnidirectional hydrophone
- Four channel combination provides an approximately 4.8 dB improvement in signal to noise ratio
- · Pitch and roll, heading
- Preamplifier and differential output
- Micro-controller with RS-485 link
- · Power management capability
- · Manufactured in an ISO 9001 facility

Cable	Lead color	Function
Power	White	PWR (+)
	Black	PWR (-)
	Shield	Cable shield ³
Digital (RS-485) ^{6,7}	White	B (EIA-485)⁴
	Black	A (EIA-485) ⁵
	Shield	Cable shield ³
X-axis (Differential Out)	White	Signal (+)
	Black	Signal (–)
	Shield	Cable shield ³
Y-axis (Differential Out)	White	Signal (+)
	Black	Signal (–)
	Shield	Cable shield ³
Z-axis (Differential Out)	White	Signal (+)
	Black	Signal (–)
	Shield	Cable shield ³
H-axis (Differential Out)	White	Signal (+)
	Black	Signal (–)
	Shield	Cable shield ³
Sensor case ⁸	N/A	PWR (-)

Tel: +1 (301) 330-8811

info@wilcoxon.com

Fax: +1 (301) 330-8873

Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.